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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,402	09/11/2006	David Sizer	010335WOJZFOMNZ 200052	1910
7590 OMNOVA SOLUTIONS 175 GHENT ROAD FAIRLAWN, OH 44333-3300			EXAMINER HINDENLANG, ALISON L	
			ART UNIT 1791	PAPER NUMBER
			MAIL DATE 10/01/2010	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/565,402	SIZER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	ALISON HINDENLANG	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/23/2006</u>   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. **Claims 1, 2, and 4-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over McBain (EP 0854157 - of record) and further in view of Kia (US 2004/0023050).**

4. With respect to claim 1, McBain teaches:

A coating composition, comprising;

(a) a saturated aliphatic polyester urethane acrylate ("a saturated polyester urethane acrylate", paragraph 0008);

(b) a hydroxyalkyl (meth)acrylate ("hydroxylalkyl (meth)acrylate", paragraph 0005);

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(c) a vinyl-substituted aromatic compound ("vinyl-substituted aromatic monomer", paragraph 0005);

(d) a polyacrylate ester of an alkylene polyol ("polyacrylate ester of alkylene polyol", paragraph 0005) wherein said alkylene group has from 2 to 30 carbon atoms ("the polyol residue preferably has from about 2 to about 30 carbon atoms", paragraph 0019); and

(e) a (cyclo)aliphatic (meth)acrylate ("cycloaliphatic(meth)acrylate", paragraph 0005), wherein said (cyclo)aliphatic group is saturated and comprises from 1 to 50 carbon atoms ("the aliphatic and/or cycloaliphatic portion is preferably saturated, typically containing from 1 to about 50 carbon atoms", paragraph 0015); and

(f) optionally, a peroxide initiator ("in the presence of a peroxide initiator", paragraph 0009),

...

5. McBain does not teach that the content of (cyclo)aliphatic(meth)acrylate is from 0.1 to 15 parts by weight relative to 100 parts by weight of the urethane acrylate.

6. In the same field of endeavor, in-mold polyester polyurethane acrylate coatings, Kia further teaches the use of alkyl (meth)acrylates in a range of 10 to 50% weight for the purpose of acting as a diluent (paragraph 0052). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition taught by McBain to limit the(cyclo)aliphatic(meth)acrylate content as claimed for the purpose of providing a diluent as taught by Kia.

7. With respect to claim 2, McBain further teaches:

The coating composition of claim 1 wherein at least one of the following is true: the number average molecular weight of the saturated polyester portion of said saturated aliphatic polyester urethane acrylate is from about 1000 to about 5,000 ("the saturated aliphatic polyester intermediate usually has a number average molecular weight of from about 1,000 to about 5,000", paragraph 0012), said vinyl-substituted aromatic compound comprises from 8 to 12 carbon atoms ("vinyl substituted aromatics, typically having from 8 to 12 carbon atoms", paragraph 0018), and the alkyl moiety of said hydroxyalkyl group comprises from 1 to 10 carbon atoms ("the alkyl group usually having from 1 to 5 or 10 carbon atoms", paragraph 0017).

8. With respect to claim 4, McBain further teaches:

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for every 100 parts by weight of said saturated aliphatic polyester urethane acrylate, the amount of said hydroxyalkyl (meth)acrylate is from 2 parts to 20 parts by weight ("the amount of such hydroxyl alkyl (meth)acrylates is usually from about 2 to about 20 parts by weight...per 100 parts by weigh of the polyester urethane acrylate", paragraph 0017), the amount of said vinyl-substituted aromatic compound is from 10 to 70 parts by weight ("the amount of this component is usually from about 10 to about 70 parts by weight", paragraph 0018), and the amount of said polyacrylate ester of an alkylene polyol is from 10 to 40 parts by weight ("the amount of the polyacrylate ester of the alkylene polyol is usually from about 10 to about 40 parts by weight", paragraph 0019).

9. With respect to claim 5, McBain, as applied to claim 4 teaches:

for every 100 parts by weight of said saturated aliphatic polyester urethane acrylate, from 6 to 16 parts by weight of said hydroxyalkyl (meth)acrylate ("the amount of such hydroxyl alkyl (meth)acrylates is usually from about 2 to about 20 parts by weight...per 100 parts by weigh of the polyester urethane acrylate", paragraph 0017), from 20 to 60 parts by weight of said vinyl-substituted aromatic compound ("the amount of this component is usually from about 10 to about 70 parts by weight", paragraph 0018), and from 15 to 35 parts by weight of said polyacrylate ester of an alkylene polyol ("the amount of the polyacrylate ester of the alkylene polyol is usually from about 10 to about 40 parts by weight", paragraph 0019).

10. With respect to claim 6, McBain further teaches:

wherein at least of the following is true: said saturated aliphatic polyester urethane acrylate is prepared from ingredients comprising neopentyl glycol, ethylene glycol ("preferred glycols include ethylene glycol and neopentyl glycol", paragraph 0011), adipic acid ("adipic acid", paragraph 0011), isophorone diisocyanate ("isophorone diisocyanate", paragraph 0013), and hydroxyethyl (meth)acrylate ("hydroxyl alkyl acrylate...methacrylate", paragraph 0013), said hydroxyalkyl (meth)acrylate is hydroxypropyl methacrylate ("with ethyl an dpropyl being preferred", paragraph 0013), said vinyl-substituted aromatic compound is styrene ("vinyl substituted aromatics...such as styrene", paragraph 0018), and said polyacrylate ester of an alkylene polyol is a diacrylic ester of hexanediol ("examples of preferred diacrylate ester of an alkylene diol include...1,6 hexanediol diacrylate, 1,6 hexanediol dimethacrylate", paragraph 0019).

11. With respect to claim 7, McBain further teaches:

wherein a polyester portion of said saturated aliphatic polyester urethane acrylate is derived from at least a saturated carboxylic acid or an anhydride thereof ("the aliphatic dicarboxylic acids/anhydrides...are desirable saturated", paragraph 0011) and a saturated diol ("the glycols or diols...are saturated", paragraph 0011), and said urethane portion of said saturated aliphatic polyester urethane acrylate is derived from an aliphatic saturated polyisocyanate ("an aliphatic polyisocyanate...is saturated", paragraph 0013).

12. With respect to claim 8, McBain further teaches:

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wherein at least one of the following is true: said saturated carboxylic acid or anhydride has from 1 to 15 carbon atoms ("from 1 to 15 carbon atoms", paragraph 0011), said saturated diol contains from 2 to 15 carbon atoms ("from 2 to 15 carbon atoms", paragraph 0011), and said saturated polyisocyanate is a C5-C18 diisocyanate ("has from about 5 to 18 carbon atoms such as isophorone diisocyanate", paragraph 0013).

13. With respect to claim 9, McBain further teaches:

wherein at least one of the following is true: said hydroxyalkyl (meth)acrylate comprises a C1-C<sub>s</sub> alkyl group ("hydroxyl alkyl (meth)acrylate, the alkyl group usually having from 1 to 5 or 10 carbon atoms", paragraph 0017) and said polyol comprises a C2-C10 alkylene group ("the polyol residue preferably has from about 2 to about 30 carbon atoms, more preferably C2-10", paragraph 0019).

14. With respect to claim 10, McBain further teaches:

A process for applying a coating composition to a molded, fiber-reinforced plastic substrate and forming a coating thereon, ("the mixed ingredients are coated onto a fiber reinforced plastic such as a sheet molded compound as by injection molding", paragraph 0023) comprising:

a) into a die defining a mold cavity in which a molded substrate has been allowed to harden ("allowing said substrate to harden in said cavity", claim 17, line 5), injecting a metered amount of the coating composition of claim 1 ("injecting a metered amount of in-mold coating composition", claim 17, line 8) and allowing said coating composition to contact at least a portion of a surface of said substrate ("over said surface", claim 17, line 12);

b) applying molding pressure to distribute said coating composition over said surface ("applying molding pressure to said die...to distribute said injected material...over said surface", claim 17, lines 10-12);

c) maintaining said pressure while said material bonds to said surface and solidifies sufficiently to permit complete separation of said the component pieces of said die without disruption of the coating thus formed ("maintaining said pressure while said material bonds to said surface and solidifies sufficiently to permit complete separation of said dies without disruption of the coating thus formed", claim 17, lines 13-14); and

d) opening said die and removing said coated substrate from said cavity ("completely separating said dies and removing said coated substrate from said cavity", claim 17, line 15).

15. With respect to claims 11 and 12, McBain further teaches "aliphatic or

cycloaliphatic (meth)acrylate...examples include methyl(meth)acrylate...isobornyl methacrylate...caprolactone acrylate", paragraph 0015).

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16. With respect to claims 13 and 14, Kia, as applied to claim 1 above, teaches using a (cyclo)aliphatic(meth)acrylate content of 10 weight percent for the purpose of providing a diluent (paragraph 0052).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALISON HINDENLANG whose telephone number is (571) 270-7001. The examiner can normally be reached on Monday to Friday 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip Tucker can be reached on 571-272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ALH

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/Philip C Tucker/

Supervisory Patent Examiner, Art Unit 1791